



December 9, 2010

Ms. Demaree Collier
Work Assignment Manager (SR-6J)
Remedial Response Unit No. 1
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Subject: Technical Review of “Revised Draft Report Biological Assessment of the Little Vermilion River Adjacent to Matthiessen and Hegeler Zinc Company Site, LaSalle, Illinois”
Contract No. EP-S5-06-02, Work Assignment No. 015-RSBD-B568

Dear Ms. Collier:

SulTRAC has reviewed the above referenced document for the Matthiessen and Hegeler Zinc Company Site located in LaSalle, LaSalle County, Illinois. As requested by the EPA, SulTRAC has prepared the enclosed technical review comments on the components of this document.

If you have any questions regarding the review comments, please call me at (312) 443-0550 ext. 24.

Sincerely,

A handwritten signature in cursive script that reads 'Kara Kelly'.

Kara Kelly
Interim Project Manager

Enclosure

cc: Darlene Hainer, EPA Contracting Officer (letter only)
Mindy Gould, SulTRAC Program Manager (letter only)
David Homer, SulTRAC Senior Environmental Scientist
File

ENCLOSURE

**TECHNICAL REVIEW OF “REVISED DRAFT REPORT
BIOLOGICAL ASSESSMENT OF THE LITTLE VERMILION RIVER ADJACENT TO THE
MATTHIESSEN AND HEGELER ZINC COMPANY
LASALLE, ILLINOIS”**

(2 Pages)

**TECHNICAL REVIEW OF “REVISED DRAFT REPORT
BIOLOGICAL ASSESSMENT OF THE LITTLE VERMILION RIVER ADJACENT TO THE
MATTHIESSEN AND HEGELER ZINC COMPANY
LASALLE, ILLINOIS”**

SulTRAC received the “Revised Draft Report, Biological Assessment of the Little Vermilion River Adjacent to Matthiessen and Hegeler Zinc Company, LaSalle, Illinois” on November 22, 2010. Carus Corporation and Carus Chemical Company’s (Carus) contractor, Geosyntec consultants (Geosyntec), prepared the document, dated November 2010. The revised report was prepared in response to written comments on the draft report from the regulatory agencies and additional comments received and clarified at a meeting with the agencies on October 5, 2010. Comments were provided by the United States Environmental Protection Agency (EPA), Illinois Environmental Protection Agency (IEPA), and SulTRAC.

SulTRAC has performed a technical review on the potentially responsible party’s (PRP) revised report. The review was conducted for technical adequacy and determination of whether the PRP had fully and appropriately addressed EPA’s and IEPA’s comments. As requested by the EPA, SulTRAC has prepared the following comments on the revised draft report:

SPECIFIC COMMENTS

1. **Section 3.3.6, Page 38, Paragraph 2.** This section describes the macroinvertebrate Index of Biotic Integrity (mIBI) used to analyze the macroinvertebrate data. The paragraph states that metric values were converted to standardized scores. The appropriate IEPA reference should be provided to support this action.
2. **Section 3.3.6, Page 39, Paragraphs 0 and 1.** This portion of the section overviews the mIBI and the macroinvertebrate biotic index (MBI) results. The discussion of MBI results refers to a “preliminary assessment value of 5.9.” The origin and significance of this value are not clear at this portion of the report. The comparison to this benchmark should be accompanied by a discussion of the origin of this value and how it is to be used in assessing potential impacts at the site.
3. **Section 3.3.6.2, Pages 44 and 45.** This section describes the statistical evaluation of the Shannon-Wiener Macroinvertebrate Diversity Indices (H') and Simpson’s Index of Diversity (D_s) values between the upstream reference location and the downstream locations. It would also be helpful to provide a comparison at each station between the data from the east and west sides. This information could be used later in the report to support the discussion on the differences between east and west sides of the river.

4. **Section 3.3.7, Page 47, Paragraph 1.** This paragraph discusses the number of taxa observed at various sampling locations, and includes a statement that at certain reaches the number of taxa was “high.” Based on comments received during the meeting, this terminology about a high number of taxa should be replaced in the analysis with a reference to the percentage of taxa where comparison to IEPA’s best value occurs.
5. **Section 3.3.7, Page 47, Paragraph 2.** This paragraph discusses the lower metric scores for the Number of Ephemeroptera Taxa and Percent Scraper. The discussion notes that Ephemeroptera are sensitive to metals in the water and sediment, but also indicates that effect(s) of metals concentrations on the Ephemeroptera are inconclusive at CAR001 and CAR002. However, this statement of “inconclusiveness” is not accompanied by comparisons of metals concentrations in sediment or surface water at these sites with concentrations of metals in the same media at other locations. This information should be provided to support the conclusion.
6. **Section 3.5, Page 50, Paragraph 1.** This section discusses the mussel tissue analysis and notes the potential source of the elevated metal concentrations in the tissue. The text here should specify whether or not the mussels were allowed to purge their guts prior to analysis.